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JUL 21 2004

Amendments to the Claims

Technology Center 2600

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 1. (Currently amended) A method of establishing a network resources reservation for an
2 anticipated traffic flow along a path in a network between an anticipated source and an
3 anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise cannot
4 facilitate establishing the network resources reservation, the method comprising the steps
5 of:
6 detecting a first RSVP Path message associated with the anticipated receiver of the
7 anticipated traffic flow at a router, acting as a proxy node, located within the path;
8 determining, at the proxy node, whether to establish the network resources reservation;
9 generating, at the proxy node, an RESV message to reserve network resources for the
10 anticipated traffic flow;
11 communicating the RESV message to the anticipated source of the anticipated traffic
12 flow;
13 wherein the step of determining, at the proxy node, whether to establish the network
14 resources reservation initiate an RSVP reservation process includes the steps of:
15 determining one or more network parameter values associated with the anticipated
16 traffic flow;
17 determining one or more transport parameter values associated with the
18 anticipated traffic flow;
19 determining next and previous hop parameter values associated with the
20 anticipated traffic flow; and
21 correlating at least one of the ascertained network parameter, transport parameter,
22 next hop parameter, and previous hop parameter values with information
23 defining a relationship between them and whether a RESV message is
24 desired.

1 2. (Original) A method as recited in claim 1, further comprising the step of determining one
2 or more device and traffic parameter values associated with the anticipated traffic flow,
3 and wherein the step of generating the RESV message comprises the step of generating
4 the RESV message based on at least one of the device and traffic parameter values.

1 3. (Previously presented) A method as recited in claim 1, further comprising the steps of:
2 receiving predefined policy information; and
3 generating the RESV message based on the predefined policy information.

1 4. (Previously presented) A method as recited in claim 1, further comprising the step of,
2 concurrently with the generating and communicating steps, forwarding a second RSVP
3 Path message to one or more devices that are along the anticipated path and that are
4 between the proxy node and the anticipated receiver, wherein the second RSVP Path
5 message defines a different set of traffic characteristics for the flow initiated by the sender
6 than the first RSVP message.

1 5. (Previously presented) A method as recited in claim 1, wherein determining the network
2 parameter values and ascertaining the transport parameter values includes the steps of
3 determining at least one of the source and receiver IP addresses, source and receiver port
4 numbers, and transport protocol based on values carried in objects in the first RSVP Path
5 message.

1 6. (Previously presented) A method as recited in claim 1, wherein determining the
2 anticipated traffic flow characteristics includes determining at least one of the rate and
3 size of packets associated with the anticipated traffic flow.

1 7. (Previously presented) A method as recited in claim 1, further comprising the steps of
2 extracting one or more additional anticipated traffic flow attributes from the first RSVP
3 Path message.

1 8. (Original) A method as recited in claim 7, wherein the anticipated receiver is an IP phone,
2 and further comprising the step of determining at least one quality of service parameter
3 associated with the anticipated traffic flow.

1 9. (Canceled)

1 10. (Previously presented) A method as recited in claim 1, wherein the step of detecting an
2 RSVP Path message comprises the step of detecting the first RSVP Path message
3 associated with the anticipated receiver of the anticipated traffic flow at a proxy node that
4 is logically positioned adjacent to the path.

1 11. (Currently amended) A computer readable medium comprising one or more sequences of
2 instructions for facilitating an RSVP reservation process, for an anticipated traffic flow
3 anticipated to be received by an anticipated receiver that cannot facilitate an RSVP
4 reservation process for the anticipated traffic flow, wherein when the instructions are
5 executed by one or more processors, the instructions cause the one or more processors to
6 carry out the steps of:

7 detecting a first RSVP Path message associated with the anticipated receiver of the
8 anticipated traffic flow at a router, acting as a proxy node, located within the path;
9 determining, at the proxy node, whether to establish the network resources reservation;
10 generating, at the proxy node, an RESV message to reserve network resources for the
11 anticipated traffic flow;

12 communicating the RESV message to the anticipated source of the anticipated traffic
13 flow;

14 wherein the step of determining, at the proxy node, whether to initiate an RSVP
15 reservation process establish the network resources reservation includes the steps
16 of:

17 determining one or more network parameter values associated with the anticipated
18 traffic flow;

19 determining one or more transport parameter values associated with the
20 anticipated traffic flow;
21 determining next and previous hop parameter values associated with the
22 anticipated traffic flow; and
23 correlating at least one of the ascertained network parameter, transport parameter,
24 next hop parameter, and previous hop parameter values with information
25 defining a relationship between them and whether a RESV message is
26 desired.

1 12. (Original) A computer-readable medium as recited in claim 11, further comprising the
2 step of determining one or more device and traffic parameter values associated with the
3 anticipated traffic flow, and wherein the step of generating the RESV message comprises
4 the step of generating the RESV message based on at least one of the device and traffic
5 parameter values.

1 13. (Previously presented) A computer-readable medium as recited in claim 11, further
2 comprising the steps of:
3 receiving predefined policy information; and
4 generating the RESV message based on the predefined policy information.

1 14. (Previously presented) A computer-readable medium as recited in claim 11,
2 further comprising the steps of, concurrently with the generating and communicating
3 steps, forwarding a second RSVP Path message to one or more devices that are
4 along the anticipated path and that are between the proxy node and the anticipated
5 receiver, wherein the second RSVP Path message defines a different set of traffic
6 characteristics for the flow initiated by the sender than the first RSVP message.

1 15. (Previously presented) A computer-readable medium as recited in claim 11, wherein
2 determining the network parameter values and ascertaining the transport parameter values
3 includes the steps of determining at least one of the source and receiver IP addresses,

source and receiver port numbers, and transport protocol based on values carried in objects in the first RSVP Path message.

16. (Previously presented) A computer-readable medium as recited in claim 11, wherein determining the anticipated traffic flow characteristics includes determining at least one of the rate and size of packets associated with the anticipated traffic flow.

17. (Previously presented) A computer-readable medium as recited in claim 11, further comprising the steps of extracting one or more additional anticipated traffic flow attributes from the first RSVP Path message.

1 18. (Original) A computer-readable medium as recited in claim 17, wherein the anticipated
2 receiver is an IP phone, and further comprising the step of determining at least one quality
3 of service parameter associated with the anticipated traffic flow.

1 19. (Canceled)

1 20. (Previously presented) A computer-readable medium as recited in claim 11, wherein the
2 step of detecting an RSVP Path message comprises the step of detecting the first RSVP
3 Path message associated with the anticipated receiver of the anticipated traffic flow at a
4 proxy node that is logically positioned adjacent to the path.

1 21. (Currently amended) A system for establishing a network resources reservation for an
2 anticipated traffic flow along a path in a network between an anticipated source and an
3 anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise cannot
4 facilitate establishing the network resources reservation, the system comprising:
5 means for detecting a first RSVP Path message associated with the anticipated receiver of
6 the anticipated traffic flow at a router, acting as a proxy node, located within the
7 path;

8 means for determining, at the proxy node, whether to establish the network resources
9 reservation;
10 means for generating, at the proxy node, an RESV message to reserve network resources
11 for the anticipated traffic flow;
12 means for communicating the RESV message to the anticipated source of the anticipated
13 traffic flow; and
14 wherein the means for determining, at the proxy node, whether to establish the network
15 resources reservation ~~initiate an RSVP reservation process~~ includes:
16 means for determining one or more network parameter values associated with the
17 anticipated traffic flow;
18 means for determining one or more transport parameter values associated with the
19 anticipated traffic flow;
20 means for determining next and previous hop parameter values associated with the
21 anticipated traffic flow; and
22 means for correlating at least one of the ascertained network parameter, transport
23 parameter, next hop parameter, and previous hop parameter values with
24 information defining a relationship between them and whether a RESV message is
25 desired.

1 22. (Currently amended) A network device that can establish a network resources reservation
2 for an anticipated traffic flow along a path in a network between an anticipated source
3 and an anticipated receiver of the traffic flow, wherein the anticipated receiver otherwise
4 cannot facilitate establishing the network resources reservation, the network device
5 comprising:
6 a network interface;
7 a processor coupled to the network interface and receiving network messages from the
8 network through the network interface;
9 a computer-readable medium comprising one or more stored sequences which, when
10 executed by the processor, cause the processor to carry out the steps of:

detecting a first RSVP Path message associated with the anticipated receiver of the anticipated traffic flow at a router, acting as a proxy node, located within the path;

determining, at the proxy node, whether to establish the network resources reservation;

generating, at the proxy node, an RESV message to reserve network resources for the anticipated traffic flow;

communicating the RESV message to the anticipated source of the anticipated traffic flow; and

wherein the step of determining, at the proxy node, whether to establish the network resources reservation initiate an RSVP reservation process comprises the steps of:

determining one or more network parameter values associated with the anticipated traffic flow;

determining one or more transport parameter values associated with the anticipated traffic flow;

determining next and previous hop parameter values associated with the anticipated traffic flow; and

correlating at least one of the ascertained network parameter, transport parameter, next hop parameter, and previous hop parameter values with information defining a relationship between them and whether a RESV message is desired.

1 23. (Previously presented) A system as recited in claim 21, further comprising means for
2 determining one or more device and traffic parameter values associated with the
3 anticipated traffic flow, and wherein the means for generating the RESV message
4 comprises means for generating the RESV message based on at least one of the device
5 and traffic parameter values.

1 24. (Previously presented) A system as recited in claim 21, further comprising:
2 means for receiving predefined policy information; and

3 means for generating the RESV message based on the predefined policy information.

1 25. (Previously presented) A system as recited in claim 21,
2 further comprising means for forwarding, concurrently with operation of the means for
3 generating and the means for communicating, a second RSVP Path message to
4 one or more devices that are along the anticipated path and that are between the
5 proxy node and the anticipated receiver, wherein the second RSVP Path message
6 defines a different set of traffic characteristics for the flow initiated by the sender
7 than the first RSVP message.

1 26. (Previously presented) A system as recited in claim 24, wherein the means for
2 determining the network parameter values and ascertaining the transport parameter values
3 includes means for determining at least one of the source and receiver IP addresses,
4 source and receiver port numbers, and transport protocol based on values carried in
5 objects in the first RSVP Path message.

1 27. (Previously presented) A system as recited in claim 24, wherein the means for
2 determining the anticipated traffic flow characteristics includes means for determining at
3 least one of the rate and size of packets associated with the anticipated traffic flow.

1 28. (Previously presented) A system as recited in claim 24, further comprising means for
2 extracting one or more additional anticipated traffic flow attributes from the first RSVP
3 Path message.

1 29. (Previously presented) A system as recited in claim 27, wherein the anticipated receiver is
2 an IP phone, and further comprising means for determining at least one quality of service
3 parameter associated with the anticipated traffic flow.

1 30. (Previously presented) A system as recited in claim 21, wherein the means for detecting
2 an RSVP Path message comprises means for detecting a first RSVP Path message

3 associated with the anticipated receiver of the anticipated traffic flow at a proxy node that
4 is logically positioned adjacent to the path.

1 31. (Previously presented) A network device as recited in claim 22, wherein the one or more
2 stored sequences, when executed by the processor, cause the processor to further carry
3 out the step of determining one or more device and traffic parameter values associated
4 with the anticipated traffic flow, and wherein the step of generating the RESV message
5 comprises the step of generating the RESV message based on at least one of the device
6 and traffic parameter values.

1 32. (Previously presented) A network device as recited in claim 22, wherein the one or more
2 stored sequences, when executed by the processor, cause the processor to further carry
3 out the steps of:
4 receiving predefined policy information; and
5 generating the RESV message based on the predefined policy information.

1 33. (Previously presented) A network device as recited in claim 22,
2 further comprising instructions for performing the step of, concurrently with the
3 generating and communicating steps, forwarding a second RSVP Path message to
4 one or more devices that are along the anticipated path and that are between the
5 proxy node and the anticipated receiver, wherein the second RSVP Path message
6 defines a different set of traffic characteristics for the flow initiated by the sender
7 than the first RSVP message.

1 34. (Previously presented) A network device as recited in claim 22, wherein determining the
2 network parameter values and ascertaining the transport parameter values includes the
3 steps of determining at least one of the source and receiver IP addresses, source and
4 receiver port numbers, and transport protocol based on values carried in objects in the
5 first RSVP Path message.

1 35. (Previously presented) A network device as recited in claim 22, wherein determining the
2 anticipated traffic flow characteristics includes determining at least one of the rate and
3 size of packets associated with the anticipated traffic flow.

1 36. (Previously presented) A network device as recited in claim 22, wherein the one or more
2 stored sequences, when executed by the processor, cause the processor to further carry
3 out the step of extracting one or more additional anticipated traffic flow attributes from
4 the RSVP Path message.

1 37. (Previously presented) A network device as recited in claim 36, wherein the anticipated
2 receiver is an IP phone, and wherein the one or more stored sequences, when executed by
3 the processor, cause the processor to further carry out the step of determining at least one
4 quality of service parameter associated with the anticipated traffic flow.

1 38. (Previously presented) A network device as recited in claim 22, wherein the step of
2 detecting an RSVP Path message comprises the step of detecting the first RSVP Path
3 message associated with the anticipated receiver of the anticipated traffic flow at a proxy
4 node that is logically positioned adjacent to the path.